

### Remarks

The examiner cited Kumar 5,038,305 against the claims. The applicant respectfully submits that the claims are patentable over Kumar.

Claims 1, 10, 16, 18, 21, 24, 26 and 28 are independent. Of those claims, claims 1, 10, 18, 21 and 28 include “an interface to the position transducer that converts the transducer signals into a change in position” (emphasis added). This claim element is not disclosed by, or suggested by, Kumar. Accordingly, Kumar cannot be used to reject these claims, or the claims dependent on these claims.

Kumar teaches the use of manually-input offsets that change the position reported resulting from the transducer position data. The Kumar system has counter 62 that, together with output register 66, reports the transducer position (including any offset added by the user). However, Kumar does not disclose or suggest, and indeed could not use, an interface that converts transducer signals to a change in position (as opposed to the position *per se*). As Kumar allows the user to add a position offset to the determined position, Kumar could not use a position offset. Rather, Kumar must determine the actual position in order to be able to add an offset to the position. If the manually-input offset of Kumar was added to the change in position created by this claim element, every such reported positional change, no matter how small or large, would be wrong by the amount of such fixed offset. For example, if fixed offset was 5 mm, and the change in position was 2 mm, the positional change would be calculated as 7 mm. On the other hand, if the change in position was 20 mm, the positional change would be calculated as 25 mm. It is thus apparent that a fixed offset cannot be added to a positional change, as the relative amount of the offset would vary depending upon the amount of the change reported. This would introduce an error, making the system useless. Thus, as Kumar could not be accomplished in a system in which the positional change was determined, Kumar cannot under the law be found to suggest this claim element, and so cannot under the law be used to reject these claims.

As to claim 16, Kumar does not disclose creating an internal interrupt based on the position reported by the position transducer. As this element of the claim is not taught by the reference, the reference cannot be used to reject the claim.

As to claim 24, Kumar does not disclose or suggest one or more offset-position counters in addition to a master position counter, nor means for storing an offset value for each offset

position counter. The Kumar manually-input position offsets are not position "counters" by any means, and in fact relate to position only in the sense that the electrical signals from the Kumar offset devices are added to the signal from the transducer to create a mixed signal that is then translated into position. Further, the outputs of these position offsets are not stored; they are instead simply input to the six decade BCD user offset adder circuit 64. As Kumar has only a single position counter, and does not store an offset value for an offset position counter, it cannot be used to reject this claim.

As Kumar does not disclose or suggest all of the elements of any of the independent claims, Kumar cannot under the law be used to reject the claims. The claims are therefore allowable. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned in Westborough, Massachusetts, (508) 898-1501.

Respectfully submitted,

A handwritten signature in black ink, appearing to be "B. Dingman", written over a horizontal line.

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